WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Tuesday, June 22, 2004

Hide?	Set Name	Query	Hit Count
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
☐	L47	L46 and (disk near5 address$1)	10
☐	L46	L45 and (source near5 file$1)	23
☐	L45	L44 and copy$	47
☐	L44	l39 and inode	59
☐	L43	(copy$ and inode$1).ti.	3
☐	L42	L41 and shadow	7
☐	L41	L40 and (disk near5 address$1)	10
☐	L40	L39 and (snapshot near5 director$)	65
☐	L39	snapshot$1 near5 file$1	596
☐	L38	'copy on write'	0
☐	L37	5764972 .uref.	69
☐	L36	L35 and (file$1 same inode$1)	6
☐	L35	L34 and (network near5 file$1)	44
☐	L34	(data near5 block$1) same (data address)	2926
☐	L33	L32 and (dataset$1 same empty)	7
☐	L32	L31 and (disk near5 address)	14
☐	L31	L30 and (data near5 block$1)	24
☐	L30	L29 and (copy$ near5 snapshot$1)	26
☐	L29	l5 and (multiple near5 snapshot$1)	46
☐	L28	L25 and (destinat$ near5 file)	0
☐	L27	L25 and (destinat$ near5 file)	0
☐	L26	L25 and (destinat$ near5 file)	0
☐	L25	L24 and source	7
☐	L24	L23 and (shadow near5 inode)	20
☐	L23	L22 and modif$	20
☐	L22	L21 and generat$	20
☐	L21	L20 and copy$	20
☐	L20	L19 and (shadow near5 inode)	20
☐	L19	L18 and (network near5 file$)	93
☐	L18	L17 and inode	117
☐	L17	L16 and (data near5 block$1)	892

h e b b cg b chh e h f c e ch

☐	L16	l5 and (disk near5 address)	1294
☐	L15	L14 and (disk near5 address)	0
☐	L14	L13 and destinat$	4
☐	L13	L12 and source	18
☐	L12	(file$1 and snapshot$1).ti.	49
☐	L11	(source$ and target$ and file$1).ti.	49
☐	L10	(inode and snapshot$).ti.	8
☐	L9	(inode and snapshot$).ti,ab.	30
☐	L8	L7 and inode	2
☐	L7	L6 and (disk near5 address)	7
☐	L6	L5 and ((meta near5 data) same (data block$1))	50
☐	L5	(file same director$)	21612
	DB=USPT; PLUR=YES; OP=ADJ		
☐	L4	US-6625704-B2.did.	1
☐	L3	US-6625704-B2.did.	1
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
☐	L2	(direct$ and snapshot$).ti.	2
☐	L1	(file$1 and direct$ and snapshot$).ti.	0

END OF SEARCH HISTORY

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Wednesday, June 23, 2004

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L26	L25 and (data near5 block$1)	21
☐	L25	L24 and snapshot$1	22
☐	L24	L23 and (disk$1 near5 address$1)	85
☐	L23	(file$1 near5 inode$1)	406
☐	L22	(4875159| 6484186| 20030140070| 20030140204| 20030182253)![pn]	10
☐	L21	l18 and inode	12
☐	L20	L19 and inode	7
☐	L19	L18 and shadow	13
☐	L18	L17 and modify$	62
☐	L17	L16 and delet$	63
☐	L16	L14 and copy$	69
☐	L15	L14 and cop$	3
☐	L14	L12 and disk$1	69
☐	L13	L12 and disk	71
☐	L12	L11 and snapshot$1	77
☐	L11	L10 and unix	506
☐	L10	L9 and (target near5 file$1)	1600
☐	L9	source near5 file$1	18912
☐	L8	L7 and (target or destinat$)	0
☐	L7	L6 and source	4
☐	L6	L5 and address	6
☐	L5	(snapshot$1 and disk$1).ti.	24
☐	L4	(snapshot$1 and unix).ti.	0
☐	L3	L2 and unix	8
☐	L2	L1 and (cop$ or transfer$)	19
☐	L1	(snapshot$1 and file$1).ti.	49

END OF SEARCH HISTORY

h e b b cg b chh e e c h f c e ch

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Wednesday, June 23, 2004

Hide?	Set Name	Query	Hit Count
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
☐	L16	L14 and ((ditto) and (disk near5 address))	0
☐	L15	L14 and ((ditto) same (disk near5 address))	0
☐	L14	L13 and (copy$ near5 snapshot$1)	1
☐	L13	L11 and (multiple near5 snapshot)	1
☐	L12	L11 and (first near5 snapshot)	0
☐	L11	20020083037 .pn.	2
☐	L10	L9 and (multiple near5 snapshots)	9
☐	L9	L8 and (file near5 system)	20
☐	L8	L7 and (inode or vnode)	20
☐	L7	(most recent) near5 (snapshot$1)	109
☐	L6	L5 and (disk address)	7
☐	L5	L4 and (multiple near5 snapshots)	20
☐	L4	'most recent snapshot'	63
☐	L3	(inode$1) same ('same' address)	2
☐	L2	(inode$1) near5 ('same' address)	0
☐	L1	ditto disk address	8

END OF SEARCH HISTORY

h e b b cg b chh e c b f c e ch

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 6341341 B1

Using default format because multiple data bases are involved.

L7: Entry 1 of 4 File: USPT Jan 22, 2002

US-PAT-NO: 6341341
DOCUMENT-IDENTIFIER: US 6341341 B1

TITLE: System and method for disk control with snapshot feature including read-write snapshot half

DATE-ISSUED: January 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Grummon; Jeffrey L.	Milford	NH		
Franklin; Chris R.	Merrimack	NH		

US-CL-CURRENT: 711/162

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 2. Document ID: US 6205450 B1

L7: Entry 2 of 4 File: USPT Mar 20, 2001

US-PAT-NO: 6205450
DOCUMENT-IDENTIFIER: US 6205450 B1
** See image for Certificate of Correction **

TITLE: Computer system capable of restarting system using disk image of arbitrary snapshot

DATE-ISSUED: March 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kanome; Namiko	Tokyo			JP

US-CL-CURRENT: 707/203; 707/204, 707/206

h e b b g e e e f e e c h ef b e

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 3. Document ID: US 20030158863 A1

L7: Entry 3 of 4 File: DWPI Aug 21, 2003

DERWENT-ACC-NO: 2003-745679
DERWENT-WEEK: 200370
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: File system snapshot provision method in computer system, involves copying inode corresponding to source file, without copying disk address of data block when only metadata is modified

INVENTOR: HASKIN, R L; SAWDON, W A ; SCHMUCK, F B ; WYLLIE, J C

PRIORITY-DATA: 2002US-0077345 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030158863 A1	August 21, 2003		055	G06F012/00

INT-CL (IPC): G06 F 12/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

☐ 4. Document ID: US 20030158834 A1

L7: Entry 4 of 4 File: DWPI Aug 21, 2003

DERWENT-ACC-NO: 2003-745664
DERWENT-WEEK: 200370
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: File system snapshot updating method used for e.g. data backup, involves copying data contents including shadow inode and data block referenced by disk address in shadow inode

INVENTOR: SAWDON, W A; SCHMUCK, F B ; WYLLIE, J C

PRIORITY-DATA: 2002US-0077371 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030158834 A1	August 21, 2003		055	G06F007/00

INT-CL (IPC): G06 F 7/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

h e b b g e e e f e e c h ef b e

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shadow inode append overwrite delete Search Advanced Search Preferences

Web Results **21** - **30** of about **750** for **shadow inode append overwrite delete**. (**0.24** seconds)

usr/bin/env python # Author: alain@onesite.org # License: GPL # OS ...
... userFiles=["/etc/passwd", "/etc/**shadow**", "/etc/master ... cleanDir(queue,dir): # test **inode** for hardlink ... debianIsPackageInstalled(pack): depends.**append**(pack) return ...
www.floc.net/cgi-bin/viewcvs.cgi/ makejail/makejail?cvsroot=makejail&rev=1.16 - 30k - Cached - Similar pages

9. Interoperability with Other Operating Systems (Solaris on Intel ...
... be a pointer to a parallel "**Shadow inode**" with Solaris ... Also, the superblock has an additional **inode** field in ... p0 (whole disk) device, but you **append** more info ...
www.sun.drydog.com/faq/9.html - 65k - Cached - Similar pages

Debian Reference - Debian tutorials
... (**append**). ... See /usr/include/linux/fs.h for the exact definition of struct **inode** in the Debian GNU/Linux system. ... ls -l /etc/passwd /etc/**shadow** /dev/ppp /usr/sbin ...
qref.sf.net/Debian/reference/ch-tutorial.en.html - 69k - Cached - Similar pages

[PDF] Storage-based Intrusion Detection: Watching storage activity for ...
File Format: PDF/Adobe Acrobat - View as HTML
... pair of inter-related files (/etc/passwd and /etc/**shadow**). ... of resource exhaustion attacks or of reverting **inode** times ... Non-**append** changes to the system audit log ...
www.pdl.cmu.edu/PDL-FTP/Secure/usenix03.pdf - Similar pages

[PDF] POSIX Access Control Lists on Linux
File Format: PDF/Adobe Acrobat - View as HTML
... the same ACL may point to the same **shadow inode**. ... Inside the **inode** specific directory, each EA is stored as ... to inconsistencies when files are **deleted** that have ...
www.cs.unibo.it/~montreso/ doc/papers/PosixAccessControlInLinux.pdf - Similar pages

[PDF] The Google File System
File Format: PDF/Adobe Acrobat - View as HTML
... by appending new data rather than **overwriting** existing data ... one per machine, will concur- rently **append** to a ... the usual operations to create, **delete**, open, close ...
www.cs.rochester.edu/sosp2003/papers/p125-ghemawat.pdf - Similar pages

[PDF] Deciding when to forget in the Elephant file system
File Format: PDF/Adobe Acrobat - View as HTML
... on-write is avoided for writes that only **append** to the ... example, for programs such as Emacs that **overwrite** files by ... when a file is **deleted**, an **inode** is added to ...
www.hpl.hp.com/personal/Alistair_Veitch/ papers/elephant-sosp/efs.pdf - Similar pages

David L. Levine's Hints page
... rm a file by referring to its **inode** (from ls ... foo>' **shadow** | /usr/lib/nis/nisaddent -v **shadow** If a ... VMLINUZ initrd=/mnt/c/RedHat71/INITRD.IMG **append**="lang= devsfs ...
www.cs.wustl.edu/~levine/Hints.html - 88k - Cached - Similar pages

F file manager change history
... 'fchange': **append** '.bak' extension ... (MN) (Linux) ask to confirm **delete** of **inode** that are read only. ... (Unix) Binary editor: cursor and **shadow** trace. ! ...
filemanager.free.fr/fnew.htm - 59k - Cached - Similar pages

h g gec e ch h e e e e eee h e e

GNU cfengine
... **append** method:**append** adds or modifies one or more ... makes sense is in transferring **shadow** password files. ... are additional directory references to the same **inode**. ...
www.cis.ksu.edu/~tim/cfengine/ reference/cfengine-Reference.html - 101k - Cached - Similar pages

◀ Goooooooooooogle ▶
Result Page: **Previous** 1 2 3 4 5 6 7 8 9 10 11 12 **Next**

shadow inode append overwrite dele Search

Search within results | Language Tools | Search Tips

Google Home - Advertising Programs - Business Solutions - About Google

h g gec e ch h e e e e eee h e e

Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 20030195903 A1

Using default format because multiple data bases are involved.

L10: Entry 1 of 8 File: PGPB Oct 16, 2003

PGPUB-DOCUMENT-NUMBER: 20030195903
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030195903 A1

TITLE: System and method for asynchronous mirroring of snapshots at a destination using a purgatory directory and inode mapping

PUBLICATION-DATE: October 16, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Manley, Stephen L.	London	CA	GB	
Owara, Shane S.	Mountain View		US	

US-CL-CURRENT: 707/201

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D.

☐ 2. Document ID: US 20030182325 A1

L10: Entry 2 of 8 File: PGPB Sep 25, 2003

PGPUB-DOCUMENT-NUMBER: 20030182325
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030182325 A1

TITLE: System and method for asynchronous mirroring of snapshots at a destination using a purgatory directory and inode mapping

PUBLICATION-DATE: September 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Manley, Stephen L.	London	CA	GB	
Owara, Shane S.	Mountain View		US	

h e b b g e e e f e h ef b e

US-CL-CURRENT: 707/204

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 20030182312 A1

L10: Entry 3 of 8 File: DWPI Sep 25, 2003

DERWENT-ACC-NO: 2003-802931
DERWENT-WEEK: 200375
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: File access redirecting method for use in snapshot, involves providing indirection level in file system inode look up procedure for accessing replicated snapshot

INVENTOR: CHEN, R C; MANLEY, S L

PRIORITY-DATA: 2002US-0100434 (March 19, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030182312 A1	September 25, 2003		036	G06F017/30

INT-CL (IPC): G06 F 17/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 20030158873 A1

L10: Entry 4 of 8 File: DWPI Aug 21, 2003

DERWENT-ACC-NO: 2003-745685
DERWENT-WEEK: 200370
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Access provision method in client information processing system, involves determining whether most recent snapshot data set includes inode corresponding to inode number specified in link

INVENTOR: SAWDON, W A; SCHMUCK, F B

PRIORITY-DATA: 2002US-0077246 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030158873 A1	August 21, 2003		055	G06F017/30

INT-CL (IPC): G06 F 12/00; G06 F 17/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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☐ 5. Document ID: US 20030158863 A1

L10: Entry 5 of 8 File: DWPI Aug 21, 2003

DERWENT-ACC-NO: 2003-745679
DERWENT-WEEK: 200370
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: File system snapshot provision method in computer system, involves copying inode corresponding to source file, without copying disk address of data block when only metadata is modified

INVENTOR: HASKIN, R L; SAWDON, W A ; SCHMUCK, F B ; WYLLIE, J C

PRIORITY-DATA: 2002US-0077345 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030158863 A1	August 21, 2003		055	G06F012/00

INT-CL (IPC): G06 F 12/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 6. Document ID: US 20030158834 A1

L10: Entry 6 of 8 File: DWPI Aug 21, 2003

DERWENT-ACC-NO: 2003-745664
DERWENT-WEEK: 200370
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: File system snapshot updating method used for e.g. data backup, involves copying data contents including shadow inode and data block referenced by disk address in shadow inode

INVENTOR: SAWDON, W A; SCHMUCK, F B ; WYLLIE, J C

PRIORITY-DATA: 2002US-0077371 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030158834 A1	August 21, 2003		055	G06F007/00

INT-CL (IPC): G06 F 7/00

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 7. Document ID: AU 2003214039 A1, WO 2003069477 A2, US 20030158861 A1

L10: Entry 7 of 8 File: DWPI Sep 4, 2003

DERWENT-ACC-NO: 2003-671704
DERWENT-WEEK: 200428

h e b b g e e e f e h ef b e

COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Snapshots generating method, involves storing identifier associated with initial multiple of source files and time of initial snapshot in each inode corresponding to initial multiple of source files

INVENTOR: SAWDON, W A; SCHMUCK, F B

PRIORITY-DATA: 2002US-0077129 (February 15, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 2003214039 A1	September 4, 2003		000	G06F011/14
WO 2003069477 A2	August 21, 2003	E	118	G06F011/14
US 20030158861 A1	August 21, 2003		000	G06F017/30

INT-CL (IPC): G06 F 11/14; G06 F 12/00; G06 F 17/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 8. Document ID: CA 2165912 C, CA 2165912 A

L10: Entry 8 of 8 File: DWPI May 25, 2004

DERWENT-ACC-NO: 1997-457927
DERWENT-WEEK: 200436
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Write anywhere file-system layout e.g. for file server back-up - always writes new data to unallocated blocks on disk, creates snapshots for duplicate inode to be virtual read-only copies of file system

INVENTOR: HITZ, D; LAU, J ; MALCOLM, M ; RAKITZIS, B

PRIORITY-DATA: 1995CA-2165912 (December 21, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2165912 C	May 25, 2004	E	000	G06F017/30
CA 2165912 A	June 22, 1997		093	G06F017/30

INT-CL (IPC): G06 F 17/30

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
INODE	4769
INODES	1073

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Hit List

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 7 of 7 returned.

☐ 1. Document ID: US 20030159007 A1

Using default format because multiple data bases are involved.

L25: Entry 1 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030159007
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030159007 A1

TITLE: Deferred copy-on-write of a snapshot

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	

US-CL-CURRENT: 711/154; 711/156

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20030158873 A1

L25: Entry 2 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030158873
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030158873 A1

TITLE: Dynamic links to file system snapshots

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	

US-CL-CURRENT: 707/204

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Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 20030158863 A1

L25: Entry 3 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030158863
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030158863 A1

TITLE: File system snapshot with ditto address feature

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Haskin, Roger L.	Morgan Hill	CA	US	
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	
Wyllie, James C.	Monte Sereno	CA	US	

US-CL-CURRENT: 707/200

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 20030158862 A1

L25: Entry 4 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030158862
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030158862 A1

TITLE: Standby file system with snapshot feature

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Eshel, Marc M.	San Jose	CA	US	
Haskin, Roger L.	Morgan Hill	CA	US	
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	

US-CL-CURRENT: 707/200

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

h e b b g e e e f e h ef b e

☐ 5. Document ID: US 20030158861 A1

L25: Entry 5 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030158861
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030158861 A1

TITLE: Providing a snapshot of a subset of a file system

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	

US-CL-CURRENT: 707/200

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 20030158834 A1

L25: Entry 6 of 7 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030158834
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030158834 A1

TITLE: Writable file system snapshot with ditto address feature

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sawdon, Wayne A.	San Jose	CA	US	
Schmuck, Frank B.	Campbell	CA	US	
Wyllie, James C.	Monte Sereno	CA	US	

US-CL-CURRENT: 707/1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 6748504 B2

L25: Entry 7 of 7 File: USPT Jun 8, 2004

US-PAT-NO: 6748504
DOCUMENT-IDENTIFIER: US 6748504 B2

TITLE: Deferred copy-on-write of a snapshot

h e b b g e e e f e h ef b e

DATE-ISSUED: June 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sawdon; Wayne A.	San Jose	CA		
Schmuck; Frank B.	Campbell	CA		

US-CL-CURRENT: 711/162; 707/202, 711/221

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
SOURCE	2919472
SOURCES	687561
(24 AND SOURCE).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	7
(L24 AND SOURCE).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	7

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☐ 1. Document ID: US 6625704 B2

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L4: Entry 1 of 1 File: USPT Sep 23, 2003

US-PAT-NO: 6625704
DOCUMENT-IDENTIFIER: US 6625704 B2

TITLE: Data backup method and system using snapshot and virtual tape

DATE-ISSUED: September 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Winokur; Alexander	Haifa			IL

US-CL-CURRENT: 711/162; 711/100, 711/112

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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1. Document ID: US 5819292 A

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L8: Entry 1 of 2 File: USPT Oct 6, 1998

US-PAT-NO: 5819292
DOCUMENT-IDENTIFIER: US 5819292 A
** See image for Certificate of Correction **

TITLE: Method for maintaining consistent states of a file system and for creating user-accessible read-only copies of a file system

DATE-ISSUED: October 6, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hitz; David	Sunnyvale	CA		
Malcolm; Michael	Los Altos	CA		
Lau; James	Cupertino	CA		
Rakitzis; Byron	Mountain View	CA		

US-CL-CURRENT: 707/203; 707/205

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

2. Document ID: NN9505229

L8: Entry 2 of 2 File: TDBD May 1, 1995

TDB-ACC-NO: NN9505229

DISCLOSURE TITLE: Extendable Random Access Memory File System

PUBLICATION-DATA:
IBM Technical Disclosure Bulletin, May 1995, US

VOLUME NUMBER: 38
ISSUE NUMBER: 5
PAGE NUMBER: 229 - 232

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Using Alcoa to Specify Metadata Update Ordering in a UNIX File.. - Shimizu (Correct)
as the basic types of the system: domain -**Inode**, DirEntry, LinkCount, DataBlocks From these and FreeInodes are mutually exclusive subsets of **Inode** whose union is exactly the set **Inode**. partition subsets of **Inode** whose union is exactly the set **Inode**. partition UsedInode, FreeInode :**Inode** By
www.stanford.edu/~kannas/project/paper.ps

Implementing the VIVA filesystem in the Linux kernel - Shankar Pasupathy (Correct)
this clustering to compress block addresses in an **inode** from 32 bits to 1 bit, relative to traditional to compress disk block addresses in the file's **inode**. On the average Implementing VIVA in the Linux block (1K block size) in Viva. Furthermore, **inodes** in Viva can store some data to avoid fetching a
www.cs.wisc.edu/~shankar/Viva/viva_implement.ps

An Implementation of a Log-Structured File System for UNIX - Seltzer, Bostic.. (1993) (Correct) (69 citations)
operation. In this way, there is a coherent **snapshot** of the file system at some point after each disk layout is described by an index structure (**inode**) that contains the disk addresses of some direct, disk addresses of doubly indirect blocks. The **inodes** and single, double and triple indirect blocks are
www.pha.com.au/papers/usenix.1.93.ps

Low-Cost Checkpointing and Failure Recovery in Mobile.. - Prakash, Singhal (Correct) (21 citations)
failures, periodic collection of a consistent **snapshot** of the system (checkpoint) is required. the checkpointing and recovery costs. Synchronous **snapshot** collection algorithms, designed for static
www.utdallas.edu/~ravip/papers/snapshot.tpds.ps

Adaptation of the System V386 Filesystem for Linux - Monday (1993) (Correct)
Cache 9 2.2.2 Free **Inode** List 11 2.3
Inode List 11 2.3 **Inodes** 13
the Superblock 22 3.3 **Inode** Handling 23
nondot.org/sabre/os/S3FileSystems/AdaptionOfSysVFilesystemForLinux.pdf

The Viva File System - II, Finkel (1993) (Correct) (3 citations)
for an 8MB file with various compression ratios **Snapshots** of file system state for files 1MB (15,373 an aging VIFS file system Table 2 shows a set of **snapshots** of the file system state as it ages. We measure needed by storing a fixed amount of data in each **inode** 1 Since reading an **inode** from disk also reads
ftp.mscf.uky.edu/pub/tech-reports/UK/cs/225-93.ps.gz

Recording Distributed Snapshots Based On Causal Order Of.. - Acharya, BADRINATH (1992) (Correct) (4 citations)
Processing Letters Aa Recording Distributed **Snapshots** Based On Causal Order Of Message Delivery Arup simple and efficient algorithm to record a global **snapshot** of a distributed system, where all messages are
pig.postech.ac.kr/~clotho/paper/distr-snapshot.ps

Performance Analysis of Dynamic Finite Versioning for.. - Merchant, Wu, Yu, Chen (1992) (Correct) (5 citations)
processing, where a finite number of consistent **snapshots** can be derived for query access. We develop to evaluate the performance of DFV using M 2 **snapshots**. The storage overhead and obsolescence faced by
www.ee.ntu.edu.tw/~mschen/paperps/dfv2sigm.ps

Reuse Linux Device Drivers in Embedded Systems - Yang, Lee, Chang (Correct)
Device Driver File Systems int lseek(struct **inode** *struct file *off_t, int)int read(struct *struct file *off_t, int)int read(struct **inode** *struct file *char *int)int write(struct *struct file *char *int)int write(struct **inode** *struct file *const char *int)int

h c e ee e c c h e c c cf

www.iis.sinica.edu.tw/~paul/paul/Papers/ics98-LinuxDD.ps

Improving File System Performance for Lookups in Large Directories - Siladin (1997) (Correct) (1 citation)
file position file structure mode file position **Inode** structure access permission file size access
file size access time data locations on disk **inode** File desc. table File desc. table Process A task
Processes, file descriptors, file structures, and **inodes** fd =open(etc/passwd"ORDONLY)If the system
www.cs.wm.edu/~kearns/710-papers.d/Tin_710.ps.gz

Ext2fs Undeletion of Directory Structures mini-HOWTO - Tomas Ericsson Tomase (Correct)
4. Finding **inodes** for deleted
6. Locating deleted
7. Activating
www.fokus.gmd.de/linux/HOWTO/mini/pdf/Ext2fs-Undeletion-Dir-Struct.pdf

A Synchronous File Server for Distributed File Systems - Bradley Broom (1992) (Correct)
a small number of file descriptor entries (or **inodes** in Unix terminology) and the rest is used for
into the same cylinder group as the file's **inode**, at locations highly optimised to reduce the time
the data, then seek to the cylinder containing the **inode**, and update the **inode**. Both of these seeks and
cs.anu.edu.au/techreports/1992/TR-CS-92-12.ps.gz

Fsck - The UNIX File System Check Program - McKusick, Kowalski (1994) (Correct) (2 citations)
checking 3.3. Free block checking 3.4. Checking the **inode** state 3.5. **Inode** links 3.6. **Inode** data size 3.7.
block checking 3.4. Checking the **inode** state 3.5. **Inode** links 3.6. **Inode** data size 3.7. Checking the data
3.4. Checking the **inode** state 3.5. **Inode** links 3.6. **Inode** data size 3.7. Checking the data associated with
ftp.fwi.uva.nl/pub/comp/NetBSD/misc/lite2-docs/smm/03.fsck.ps.gz

A neural model of landmark navigation in insects - Möller, Maris, Lambrinos (1998) (Correct)
Experiments revealed that the insects store a "**snapshot** image" of the surroundings of the target
a home direction by comparing current image and **snapshot**. A corresponding algorithmic model, the
www.ifi.unizh.ch/staff/moeller/documents/cns98.ps.gz

A r/w Waitfree Protocol-Complex is an Image of a.. - David Taylor (Correct)
been proven that the iterated immediate atomic **snapshot** model has a view complex which is a subdivided
What does a view complex of single writer atomic **snapshot** reader [2] look like? It follows from [3, 1]
www.math.tau.ac.il/~stupp/ARCHIVE/eli.ps.gz

Highlight: A File System For Tertiary Storage - Kohl, Staelin, Stonebraker (1993) (Correct) (4 citations)
not found in FFS: the segment summary table and the **inode** map. The segment summary table describes the
as the number of live bytes in the segment. The **inode** map contains the disk address of each file's
inode map contains the disk address of each file's **inode**, as well as some auxiliary bookkeeping
www.hpl.hp.com/personal/Carl_Staelin/Kohl93a.ps.gz

Insect Strategies of Visual Homing in Mobile Robots - Möller, Lambrinos, Pfeifer.. (1998) (Correct)
of the insects' navigation behavior is the "**snapshot** model"It is based on the assumption that
on the assumption that insects store a visual **snapshot** of the surroundings at the target location, and
www.ifi.unizh.ch/staff/moeller/documents/cvmr98.ps.gz

Global Snapshots for Distributed Debugging: An Overview - Yang, Marsland (1992) (Correct) (1 citation)
Global **Snapshots** for Distributed Debugging: An Overview Z. Yang
problem is that of constructing a global **snapshot** or global state of a distributed computation.
menaik.cs.ualberta.ca/pub/TechReports/1992/TR92-03/TR92-03.ps

A Flexible Persistent Architecture Permitting Trade-off.. - Hulse, Dearle (1996) (Correct)
Architecture Permitting Trade-off Between **Snapshot** and Recovery Times David Hulse Department of
systems to be useful they must provide efficient **snapshot** and recovery mechanisms. This paper describes
persistence.cs.stir.ac.uk/pub/papers/GH-16.ps.gz

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The Behavior Language; User's Guide - Brooks (1990) (Correct) (33 citations)
and the 6301. The subsumption compiler takes a **source file** as input, and depending on the target
the 6301. The subsumption compiler takes a **source file** as input, and depending on the target machine
publications.ai.mit.edu/ai-publications/1000-1499/AIM-1227.ps.Z

Extending A Tool Integration Language - Mark Gisi (1991) (Correct) (21 citations)
without modification, or even access to their **source** code, the Marvel kernel views each activity as a
we want to execute an activity that compiles a C **file**. The activity needs the C **source file**, a set of
www.cs.columbia.edu/~library/TR-repository/reports/reports-1991/cucs-014-91.ps.gz

A Class library for Building Fortran 90 and - Restructuring Tools (Correct)
compilers, performance analysis tools, and **source** code optimizers. It is designed as an open C
parse tree, symbol table and type table for each **file** in an application project. There are five basic
ftp.extreme.indiana.edu/pub/sage/sagexx_ug.ps.gz

SPARC Verdi Compiler User's Manual - Meisels (1994) (Correct)
: 5 3.1.1 Verdi **Source Files** :
3 2 Verdi 4 3 Operating Procedures 5 3.1 **File** Naming Conventions :
ftp.ora.on.ca/pub/doc/94-5463-10.ps.Z

A Prototype of FORTRAN-to-Java Converter - Fox, Li, Qiang, Zhigang (1997) (Correct) (4 citations)
parallel interpretation, and parallelization of **source** code, etc. 11]Thus, Java will be fast, and the
application in FORTRAN consists of multiple **source files**, and each **file** has one or more program units. F2j
www.npac.syr.edu/projects/javaforcse/acmspecissue/finalps/4_fox.ps

Operating System Support For Easy Development Of Distributed File .. - Kourai (1998) (Correct)
level to be changed without modifying the **source** code of the module. We have implemented the
System Support For Easy Development Of Distributed **File** Systems Kenichi Kouraiy Shigeru Chibaz Takashi
www-masuda.is.s.u-tokyo.ac.jp/~kourai/papers/kourai-pdcs98.ps.gz

Space-saving Optimisations for the Glasgow Haskell Compiler - O'Sullivan (1994) (Correct)
is not important. By building the suffix tree of a **source** program and then flattening it, maintaining
useless information such as "the entire **source file** appears once"the entire **source file** save the
ftp.dcs.gla.ac.uk/pub/glasgow-fp/authors/Bryan_OSullivan/Space_Savings_for_GHC.ps.gz

Operating System Support for Easy Development of Distributed.. - Kenichi Kourai (1998) (Correct)
level to be changed without modifying the **source** code. We have implemented this operating system
System Support for Easy Development of Distributed **File** Systems Kenichi Kourai, Shigeru Chiba, and Takashi
www-masuda.is.s.u-tokyo.ac.jp/~kourai/papers/TR98-01.ps.gz

Changes in Web Client Access Patterns -.. - Barford.. (1999) (Correct) (56 citations)
computing facility at Boston University. The older **dataset**, obtained in 1995, is well-known in the research
than would be possible using a new, different **source** of measurement. Our results fall into two
locality properties, affect the potential for Web **file** caching in the network. We find that for the
cs-www.bu.edu/faculty/crovella/paper-archive/traces98.ps

Incremental Recompilation for Standard ML of New Jersey - Harper, Lee, Pfennig, Rollins (1994) (Correct) (9 citations)
Large systems are presented as hierarchical **source** groups. An automatic dependency analyzer
www.cs.cmu.edu/afs/cs.cmu.edu/project/fox/mosaic/papers/incremental-recomp.ps

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Shell 4.3 Users' Guide - Taylor, Barrera (1998) (Correct)
guide M B Taylor G D Barrera April 3, 1998 RCS: **Source**: home/mbt/shell/doc/RCS/shelluser.tex,v
.4 3 Shell input **file** format 5 3.1 Example input **file** .
dougal.chm.bris.ac.uk/programs/shell/doc/shelluser.ps

Ida - The Implementation Language - Landerl (Correct)
. 3 2.2 **Source Files** .
1 Introduction 3 2 Description 3 2.1 Header **Files** .
file, in which the error was found (**file** is the **empty** string if standard input is parsed)and the
www.risc.uni-linz.ac.at/projects/basic/hpgp/reports/96-6/report-main.ps.gz

Using Automatic Clustering to Produce High-Level.. - Mancoridis.. (1998) (Correct) (13 citations)
to Produce High-Level System Organizations of **Source** Code S. Mancoridis, B. S. Mitchell, C. Rorres
Graph Clustering Tool (e.g.Bunch) Output **File** Graph Visualization Tool (e.g.dotty) Clustered
Let A 1 A 2 A k be a set of non-**empty** subsets of S. We call a partition of set S if:
plg.uwaterloo.ca/~migod/746/papers/iwpc98.ps

Reengineering of Configurations Based on Mathematical Concept.. - Snelting (1996) (Correct) (14 citations)
to infer configuration structures from existing **source** code. Our tool NORA/RECS will accept **source** code,
have common code, where they should not. A **source file** can be made interference free by dividing it into
bottom element (only the bottom element can have **empty** extent, as two concepts with equal extent and
ftp.ips.cs.tu-bs.de/pub/local/softech/papers/tr-95-02.ps.gz

Xpvm 1.0 User's Guide - Kohl, Geist (1996) (Correct) (1 citation)
and displayed by XPVM. See Figure 1 for a **snapshot** of the XPVM interface.All of the above views
: 3 2.2.1 Installing the XPVM **Source** Distribution :3 2.3 Using
: 11 3.1 **File** Commands :
dv.go.dlr.de/fresh/unix/src/misc/XPVM.ug.ps.Z

Measuring the Curvature of the Universe with Gravitational.. - Myeong-Gu Department (Correct)
in E/S0 galaxies and concluded that the HST **snapshot** survey data requires E/S0 galaxies to have
gravitational lens systems as a function of the **source** redshift depends on the curvature of the universe
than any correlation expected in open or even in **empty** universe. Therefore, the curvature effect alone
physics.inje.ac.kr/~hwlee/ik5/proceeding/mgpark.ps

Setting Up the Files - The First (Correct)
up the **files** The first thing to do is set up **source files** and routines to hold your new code. The
of writing a recorder driver. Setting up the **files** The first thing to do is set up **source files** and
ftp.scri.fsu.edu/pub/lyons/ref080Part4.ps

Low-Cost Checkpointing and Failure Recovery in Mobile.. - Prakash, Singhal (Correct) (21 citations)
failures, periodic collection of a consistent **snapshot** of the system (checkpoint) is required.
www.utdallas.edu/~ravip/papers/snapshot.tpds.ps

Specifications of EDPEPPS Toolset Prototype (DRAFT) - Delaitre Vekariya (Correct)
Figure 5: PVMGraph main window. Figure 5 Shows a **snapshot** of the animation window and the platform view of

real execution. In the simulation path each C/PVM **source** code obtained from the PVMGraph is processed
Engine Pvmvis Pvmgraph Simpvm Translator Into **File** Numbers Maps **File** Names User
www.cpc.wmin.ac.uk/~edpepps/reports/edpepps20.ps.gz

Development of the trip planning system prototype: Annotated and .. - McCormack (1994) (Correct)
system prototype Annotated and indexed **source** code reference by J.E. McCormack Division of
agora.leeds.ac.uk/scs/doc/reports/1994/94_6.ps.Z

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The Performance of Consistent Checkpointing - Elnozahy, Johnson, Zwaenepoel (1992) (Correct) (102 citations)
was 5.8%Incremental checkpointing and **copy**-on-**write** checkpointing were the most effective
The checkpoint of a single process includes a **copy** of the process's address space and the state
was 5.8%Incremental checkpointing and **copy**-on-**write** checkpointing were the most effective techniques
arirang.snu.ac.kr/~woojeong/fault_paper/srds92.ps

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Machine-Independent Virtual Memory Management for.. - Rashid, Tevanian, .. (1987) (Correct) (98 citations)
Systems, ACM October, 1987. Permission to **copy** without fee all or part of this material is
for direct commercial advantage, the ACM **copy**right notice and the title of the publication and
large, sparse virtual address spaces, **copy**-on-**write** virtual **copy** operations, **copy**-on-**write** and
www.cs.cornell.edu/cs614-sp98/berkeley-262/mach-vm.ps

Virtual Memory Primitives for User Programs - Appel, Li (1991) (Correct) (85 citations)
make portions of memory zeroed-on-demand or **copy**-on-**write**, and so on [18]In fact, there is a
(ASPLOS-IV)April 8-11, 1991. Permission to **copy** without fee all or part of this material is
the protection level (inaccessible, readonly, read-**write**) of pages, and allow user programs to handle
www.cs.berkeley.edu/~brewer/cs262/vm-tricks.pdf

Libckpt: Transparent Checkpointing under Unix - Plank, Beck, Kingsley, Li (1995) (Correct) (78 citations)
running Unix. It implements incremental and **copy**-on-**write** checkpointing, two optimizations
in libckpt through transparent incremental and **copy**-on-**write** checkpointing. In addition, we introduce
running Unix. It implements incremental and **copy**-on-**write** checkpointing, two optimizations well-known in
www.cs.utk.edu/~plank/plank/papers/CS-94-242.ps.Z

Cache Write Policies and Performance - Jouppi (1991) (Correct) (77 citations)
or **write**-back (also called store-in or **copy**-back)**Write**-back caches take advantage of the
from most algorithms is that presented by block **copy** operations where stores and loads are interleaved.
C E M B E R 1 9 9 1 WRL Research Report 91/12 Cache **Write** Policies and Performance Norman P. Jouppi d i g
i
ftp.digital.com/pub/Digital/WRL/research-reports/WRL-TR-91.12.ps.gz

Plan 9 from Bell Labs - Pike (1990) (Correct) (65 citations)
to a fresh hierarchy, fabricated on demand, using a **copy**-on-**write** scheme. 7] Thus, the file tree is split
of lost files by traditional commands such as file **copy** and comparison routines rather than by special
of magnetic disk, and a 300 gigabyte jukebox of **write**-once optical disk (WORM)This machine is to be
http.cs.berkeley.edu/~gribble/osprelims/F95/papers/plan9_old.ps.gz

A Caching Model of Operating System Kernel Functionality - Cheriton, Duda (1994) (Correct) (56 citations)
of a modern virtual memory system (such as the **copy**-on-**write** facility)the need to support many
of the memory system, not the software overhead of **copy**ing, queuing and delivering messages, as arises
application kernels handle the loading and **write**back of these objects, implementing
guir.cs.berkeley.edu/projects/osprelims/papers/cachmodel-OSkernel.ps.gz

Competitive Distributed File Allocation - Awerbuch, Bartal, Fiat (1993) (Correct) (44 citations)
are issued in some vicinity, it is advisable to **copy** the relevant file to, or near, that vicinity.
how to go about finding the closest current **copy** of every file, how to update all replicas after a
that adapts on-line to a sequence of read and **write** requests whose locations and relative frequencies
www.math.tau.ac.il/~fiat/distpg.ps

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Multi-level Caching in Distributed File Systems -or- Your.. - Muntz, Honeyman (1992) (Correct) (38 citations)
file in the cache of any other client holding a **copy**. **Write** operations are counted as cache misses on
arise, e.g. when attempting to create a file in a **write**protected directory. The name space was normalized
records is processed until exhausted. All read and **write** requests are guaranteed to succeed at the server,
cag.lcs.mit.edu/pub/dm/papers/muntz:trash.ps.gz

Shared Libraries in SunOS - Gingell, Lee, Dang, Weeks (1987) (Correct) (36 citations)
kernel-supplied facilities for file-mapping and "**copy**-on-**write**" sharing a revised link editor
utilization through sharing a single physical **copy** of the text (code) of a given program among all
facilities for file-mapping and "**copy**-on-**write**" sharing a revised link editor supporting
swt-www.informatik.uni-hamburg.de/~1friedri/sv/references/Shared_Libraries_In_Sun_OS.ps.gz

File System Design for an NFS File Server Appliance - Hitz, Lau, Malcolm (1995) (Correct) (35 citations)
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and Non-Volatile RAM .12 3.6. **Write** Allocation
a1972.g.akamai.net/7/1972/183/b49c83ce419dd0/www.netapp.com/ftp/3002.pdf

A Fast Mach Network IPC Implementation - Barrera (1991) (Correct) (33 citations)
for faster networks, requires an avoidance of **copy**ing, which can be achieved through virtual memory
common data-dependent software cost is the cost of **copy**ing the data between buffers. Limiting the number
in the Mach system, as local Mach IPC uses **copy**-on-**write** to avoid **copy**ing data until either the sender or
ftp.cs.cmu.edu/project/mach/doc/published/ipc2.ps

The Click modular router - Morris, Kohler, Jannotti, Kaashoek (1999) (Correct) (29 citations)
notice and the full citation on the first page. To **copy** otherwise, to republish, to post on servers or to
it receives from its single input port, sending one **copy** to each output port. The packet data is not
more powerful and complex configurations easier to **write**, including pull processing, which models packet
www.pdos.lcs.mit.edu/papers/click:sosp99/paper.ps.gz

The Episode File System - Chutani, Anderson, Kazar, Leverett.. (1992) (Correct) (24 citations)
and sharing data with the original fileset using **copy**-on-**write** techniques. A cloned fileset is
snapshot of a read-**write** fileset, implemented using **copy**-on-**write** techniques, and sharing data with the
data with the original fileset using **copy**-on-write techniques. A cloned fileset is read-only, and is
www.transarc.com/~ota/episode.ps.gz

IO-Lite: A Unified I/O Buffering and Caching System - Pai, Druschel, Zwaenepoel (1997) (Correct) (21 citations)

the network subsystem to share a single physical **copy** of the data safely and concurrently. Protection
and read-only sharing. IOLite eliminates all **copy**ing and multiple buffering of I/O data, and enables
OS and application buffers during I/O read and **write** operations 1 The presence of separate
www.cs.rice.edu/~vivek/iol98/iol98.ps.gz

The Performance of Consistent Checkpointing in Distributed.. - Gilbert Cabillic (1995) (Correct) (20 citations)
protocol: each page has either a single read-**write** **copy** or several read-only copies before a node **writes**
Information related to pages' status (access mode, **copy**set, owner) are kept, by a node called the page's
protocol: each page has either a single read-**write** **copy** or several read-only copies before a node
www.irisa.fr/EXTERNE/projet/solidor/doc/./ps95/stardust-srds.ps.gz

FORK - A High-Level Language for PRAMs - Hagerup, Schmitt, Seidl (1994) (Correct) (19 citations)
its local memory and instructions READ and **WRITE** to **copy** the contents of a given global memory cell to a
cell in its local memory and instructions READ and **WRITE** to **copy** the contents of a given global memory
can be executed in parallel. Secondly, we want to **write** programs for a shared-memory machine. Therefore,
www-wjp.cs.uni-sb.de/sbpram/papers/forkpram.ps.gz

Exterminate All Operating System Abstractions - Engler, Kaashoek (1995) (Correct) (18 citations)
a full-featured virtual memory system with **copy**-on-**write**, memory-mapped I/O and other treats)
frequent reads or random **writes**, whether to have **copy**-on-**write** or a large page size, etc. Unfortunately,
a full-featured virtual memory system with **copy**-on-**write**, memory-mapped I/O and other treats) requires a
www.stanford.edu/~engler/hotos-jeremiad.ps

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Zero-Copy TCP in Solaris - Chu (1996) (Correct) (18 citations)
4. Www Url: www.usenix.org Zero-**Copy** Tcp In Solaris H. K. Jerry Chu Sunsoft, Inc.
Nevertheless, the performance improvement over CPU **copy**ing varies, depending on the host memory cache
www.usenix.org/publications/library/proceedings/sd96/full_papers/chu.ps

Virtual Memory Support for Multiple Page Sizes - Khalidi, Talluri, Nelson.. (1993) (Correct) (18 citations)
it forces the system to do all operations, such as **copy**-on-**write**, zero-fill on demand, and paging I/O at
such as read-ahead, clustering [16]and **copy**-on-**write**. It is important to note that supporting
the system to do all operations, such as **copy**-on-**write**, zero-fill on demand, and paging I/O at the new
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... Network Appliance [Hitz et al, 1994; Hutchinson et al, **1999**]. ... is done by allowing allsystem calls currently **writing** to the ... A **copy** of the block is made for each ...
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[Orca-checkins] rev 244 - trunk/orca/data_gatherers/orcallator
... faults -// prot_fault/s - protection faults -// cow_fault/s - **copy**-on-**write** ... 2 since I am still getting -// fake **write** spikes. ... Version 1.13: Sep 24, **1999** Fix a ...
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... Is there anyway to override this **write** > protection and **copy** the original back in ... Try remounting it read/**write**. ... Date: 19 Mar **1999** 18:05:57 -0600 Reply-To: Peter ...
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... On Thu, 25 Mar **1999**, Joanna Gaski wrote: ... work for a person only remotely capable of **writing** scripts ... to some from the paper that **snapshots** only **copy** some metadata ...
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The Third Extended File System with **Copy**-on-**Write** Part II. Zachary NJ Peterson. ... Yeah! Anything user level (**snapshot**, get_epoch) is done through ioctls. Done. ...
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The other reason to love folder redirection: shadow **copies**
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... But if you **write** to the **snapshot**, the array has to make sure that the parent **copy**-on-**write** mechanism does not impact modified blocks on the **snapshot** volume. ...
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